



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,513	03/08/2002	Young-Duk Kim	6192.0228.AA	3776

7590 02/25/2004

McGuire Woods
Suite 1800
1750 Tysons Boulevard
McLean, VA 22102-4215

EXAMINER

KIM, RICHARD H

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,513	Applicant(s) KIM, YOUNG-DUK	
	Examiner Richard H Kim	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. (US 5,108,318) in view of admitted prior art (AAPA).

Sakurai et al. discloses a connector comprising a housing (42) having a through hole (42a, b); and a hanging projection portion formed on an inner bottom surface of the through hole (40); and a body portion inserted into the through hole (20), wherein the body portion comprises a head portion (21); and a connection portion extended from the head portion and bent toward an inner bottom surface of the through hole (20); and a joint portion extended from the connection portion and connected to a power supply wire (22). However, the reference does not disclose the device wherein the head portion comprises the hanging jaw formed on the bottom surface thereof and engaged with the hanging projection of the housing; the connection portion is bent towards the inner top surface of the through hole; and the body portion is a single unit divided into a plurality of integral portions.

AAPA discloses a head portion comprising a hanging jaw formed on a bottom surface of the body portion (Fig. 3, ref. 166a) and engaged with the hanging projection of the housing (Fig. 3B, ref. 167a); and the body portion is a single unit divided into a plurality of integral portions (Fig. 3A).

Art Unit: 2871

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the head portion to comprise a hanging jaw formed on a bottom surface thereof and engaged with the hanging projection of the housing to prevent dislodging between the two. Situating the hanging jaw portion on the body instead of on the housing as shown in Sakurai et al. would equally provide an effective locking mechanism between the housing and the body. Therefore, such a modification would be functionally equivalent. Moreover, it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the connection portion to be bent toward the inner top surface of the through hole since such a modification could easily be achieved by rotating the connector lengthwise by 180 degrees. By doing so, the connection portion would indeed be bent toward the inner top surface of the through holes. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the body portion to be a single unit divided into a plurality of integral portions since one would be motivated to improve the durability of the device by minimizing the number of pieces involved in the device.

Referring to claim 2, Sakurai et al. discloses that the device wherein the connection portion is bent at an angle in a range of about 9 degrees to 10 degrees (20).

3. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,921,819) in view of Sakurai et al. and admitted prior art (AAPA).

Art Unit: 2871

Referring to claim 3, Lee discloses a device comprising a lamp for generating light (Fig. 2, ref. 16); a power supply line having a first end connected to the lamp (Fig. 2, ref. 24); and a connector connected to a second end of the power supply line (Fig. 2, ref. 26). However, the reference does not disclose that the connector comprises a housing having a through hole and a hanging projection formed at an inner bottom surface of the through hole; and a body portion inserted into the through hole from one side opening of the through hole, and wherein the body portion is a single unit and divided into a plurality of integral portion comprising a head portion having a hanging jaw engaged with the hanging projection of the housing; and a connection portion extended from the head portion and bent toward an inner top surface of the through hole; and a joint portion extended from the connection portion and connected to the second end of the power supply line.

Sakurai discloses a connector comprising a housing (42) having a through hole (42a, b); a body portion inserted into the through hole from one side opening of the through hole (20); a connection portion extended from the head portion and bent toward an inner bottom surface of the through hole (20); and a joint portion extended from the connection portion and connected to the second end of the power line (22). AAPA discloses a hanging projection formed at an inner bottom surface of the through hole (Fig. 3b, 167a), wherein the body is a single unit and divided into a plurality of integral portions (Fig. 3a, ref. 166) comprising a head portion having a hanging jaw engage with the hanging projection of the housing (Fig. 3A, ref. 166a, Fig. 3b, ref. 167).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a connector comprising a housing having a through hole; a body portion inserted into the through hole from one side opening of the through hole; a connection

Art Unit: 2871

portion extended from the head portion and bent toward and inner top surface of the through hole; and a joint portion extended from the connection portion and connected to the second end of the power line since one would be motivated to ease connecting a disconnecting the power supply line to the lamp. According to Sakurai et al., since the sleeve has an enlarged diameter portion at the front side thereof, the amount that the flexible contact part can be flexibly displaced in the radial direction of the sleeve become relatively large, which makes insertion of the male terminal to the female receptacle section easy" (see col. 2, lines 49-55). Further, although Sakurai et al. discloses that the connection portion is bent toward an inner bottom surface as opposed to the top surface, such a modification could easily be achieved by rotating the connector lengthwise by 180 degrees. By doing so, the connection portion would indeed be bent toward the inner top surface of the through holes. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a hanging projection formed at an inner bottom surface of the through hole, wherein the body is a single unit and divided into a plurality of integral portions comprising a head portion having a hanging jaw engaged with the hanging projection of the housing since one would be motivated to prevent dislodging. Moreover, by employing a single unit, one may improve the durability of the device by minimizing the number of pieces involved in the device,

Referring to claim 4, Sakurai et al. discloses that the device wherein the connection portion is bent at an angle in a range of about 9 degrees to 10 degrees (20).

Referring to claim 5, Lee, Sakurai et al. and AAPA disclose the device previously recited. However, Lee does not disclose the device wherein a distance between the head portion and the inner bottom surface of the through hole is different from a distance between the joint portion

Art Unit: 2871

and the inner bottom surface of the through hole and a distance between the connection portion and the inner bottom surface of the through hole.

Sakurai et al. discloses a device wherein a distance between the head portion and the inner top surface of the through hole (21) is different from a distance between the joint portion and the inner top surface of the through hole (22) and a distance between the connection portion and the inner top surface of the through hole (20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the distance between the head portion and the inner bottom surface of the through hole to be different from a distance between the joint portion and the inner bottom surface of the through hole and a distance between the connection portion and the inner bottom surface of the through hole since one would be motivated to ease connecting a disconnecting the power supply line to the lamp. According to Sakurai et al., since the sleeve has an enlarged diameter portion at the front side thereof, the amount that the flexible contact part can be flexibly displaced in the radial direction of the sleeve become relatively large, which makes insertion of the male terminal to the female receptacle section easy” (Sakurai et al., col. 2, lines 49-55). Moreover, although Sakurai et al. discloses a varying distance between the portions of the body and the top surface, instead of the bottom surface, such a modification could easily be achieved by rotating the connector lengthwise by 180 degrees.

4. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogo et al., in view of Lee, Sakurai et al. and admitted prior art (AAPA).

Referring to claim 8, Ogo et al. discloses a device comprising a lamp for generating light (Fig. 9, ref. 1); a light guiding unit for guiding the light generated from the lamp (Fig. 9, ref. 3); and a display unit for displaying an image in response to the light guided by the light guiding unit (Fig. 9, ref. 6).). However, the reference does not disclose a power supply line having a first end connected to the lamp; a connector connected to a second end of the power supply line; wherein the connector comprises a housing having a through hole and a hanging projection formed at an inner bottom surface of the through hole; a body portion inserted into the through hole from one side opening of the through hole, for providing the external power to the lamp through the power supply line; and wherein the body portion is a single unit and divided into a plurality of integral portions comprising: a head portion having a hanging jaw engaged with the hanging projection of the housing; and a connection portion extended from the head portion and bent toward an inner upper surface of the housing; and a joint portion extended from the connection portion and connected to the second end of the power supply line.

Lee et al. discloses a power supply line having a first end connected to a lamp (Fig. 2, ref. 24); a connector connected to a second end of a second end of the power supply line (Fig. 2, ref. 26). Sakurai discloses a connector comprising a housing (42) having a through hole (42a, b); a body portion inserted into the through hole from one side opening of the through hole (20); for providing external power through the power supply line (col. 3, lines 20-33); a connection portion extended from the head portion and bent toward an inner bottom surface of the through hole (20); and a joint portion extended from the connection portion and connected to the second end of the power line (22). AAPA discloses a body that is a single unit divided into a plurality of

Art Unit: 2871

integral portions (Fig. 3a, ref. 166) comprising a head portion having a hanging jaw engaged with the hanging projection of the housing (Fig. 3A, ref. 166a, Fig. 3b, ref. 167).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ discloses a power supply line having a first end connected to a lamp; a connector connected to a second end of a second end of the power supply line since one would be motivated to selectively power on the backlight by directly providing external power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a connector comprising a housing having a through hole; a body portion inserted into the through hole from one side opening of the through hole; for providing external power through the power supply line; a connection portion extended from the head portion and bent toward an inner bottom surface of the through hole; and a joint portion extended from the connection portion and connected to the second end of the power line since one would be motivated to ease connecting a disconnecting the power supply line to the lamp. According to Sakurai et al., since the sleeve has an enlarged diameter portion at the front side thereof, the amount that the flexible contact part can be flexibly displaced in the radial direction of the sleeve become relatively large, which makes insertion of the male terminal to the female receptacle section easy" (Sakurai et al., col. 2, lines 49-55). Further, although Sakurai et al. discloses that the connection portion is bent toward an inner bottom surface as opposed to the top surface, such a modification could easily be achieved by rotating the connector lengthwise by 180 degrees. By doing so, the connection portion would indeed be bent toward the inner top surface of the through holes. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the body to be a single unit divided into a plurality of

Art Unit: 2871

integral portions comprising a head portion having a hanging jaw engaged with the hanging projection of the housing since one would be motivated to prevent dislodging. Moreover, by employing a single unit, one may improve the durability of the device by minimizing the number of pieces involved in the device.

Referring to claim 9, Sakurai et al. discloses that the device wherein the connection portion is bent at an angle in a range of about 9 degrees to 10 degrees (20).

Referring to claim 10, Ogo et al., Lee, Sakurai et al. and AAPA disclose the device previously recited. However, Ogo et al. does not disclose the device wherein a distance between the head portion and the inner bottom surface of the through hole is different from a distance between the joint portion and the inner bottom surface of the through hole and a distance between the connection portion and the inner bottom surface of the through hole.

Sakurai et al. discloses a device wherein a distance between the head portion and the inner top surface of the through hole (21) is different from a distance between the joint portion and the inner top surface of the through hole (22) and a distance between the connection portion and the inner top surface of the through hole (20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the distance between the head portion and the inner bottom surface of the through hole to be different from a distance between the joint portion and the inner bottom surface of the through hole and a distance between the connection portion and the inner bottom surface of the through hole since one would be motivated to ease connecting a disconnecting the power supply line to the lamp. According to Sakurai et al., "since the sleeve has an enlarged diameter portion at the front side thereof, the amount that the flexible contact part can be flexibly

Art Unit: 2871

displaced in the radial direction of the sleeve become relatively large, which makes insertion of the male terminal to the female receptacle section easy” (see col. 2, lines 49-55). Moreover, although Sakurai et al. discloses a varying distance between the portions of the body and the top surface, instead of the bottom surface, such a modification could easily be achieved by rotating the connector lengthwise by 180 degrees.

Response to Arguments

5. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

6. In response to Applicant's argument that Sakurai involves engagement between the step portion 33 of the protective sleeve 30 and the stopper arms 40 of the female terminal 15, which is different from the present invention, Examiner recognizes the reference's shortcoming.

However, AAPA clearly indicates the engagement mechanism claimed in the present invention.

7. In response to Applicant's argument that the connection portion between the base cylindrical part and the wire connection section is not bent toward any direction, Examiner submits that the inclination of the body clearly indicates that it is bent. The bending structure is desirable in order for the sleeve to have an enlarged diameter portion at the front side so that the amount that the flexible contact part can be flexibly displaced in the radial direction of the sleeve is relatively large, which makes insertion of the male terminal to the female receptacle section easy (Sakurai et al., col. 2, lines 49-55). By bending the body towards the bottom surface of the through hole, the invention would maintain that advantage while allowing for the body to be placed flush against the inner surface. Although bending the connection portion causes the

Art Unit: 2871

connection section toward the inner surface of the cavity, it would not cause the step portion to be dislocated from one of the stopper arms as is indicated in the Sakurai reference.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim
Examiner
Art Unit 2871

RHK


ROBERT H. KIM
SUPERVISOR
TECHNICAL EXAMINER
TECHNICAL UNIT 2800